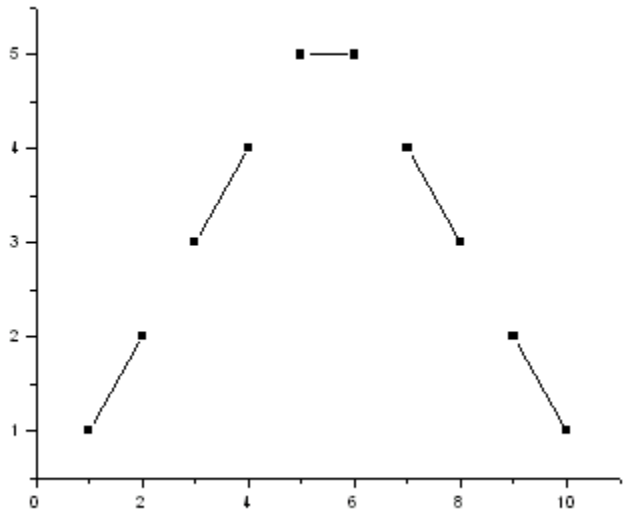
Plotting: Origin's Built-in Graph Types

2D Line, Scatter, and Line + Symbol Graphs

2 Point Segment Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Special Line/Symbol:2 Point Segment** or click the 2 Point Segment button on the 2D Graphs Extended toolbar.

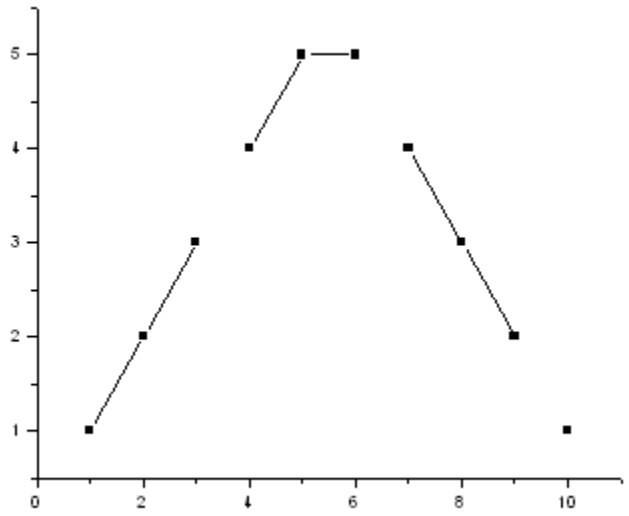
Template

The 2 point segment graph is created from the LINESYMB.OTP template located in the Origin folder.

Notes

The line connection between points alternates between a straight line and no line (the connection type is set to Segment on the Line tab of the Plot Details dialog box (**Format:Plot**)). Thus, every two consecutive data points are connected by a line (the first and second data points, the third and fourth data points, etc.). The data points are displayed as symbols.

3 Point Segment Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Special Line/Symbol:3 Point Segment** or click the 3 Point Segment button on the 2D Graphs Extended toolbar.

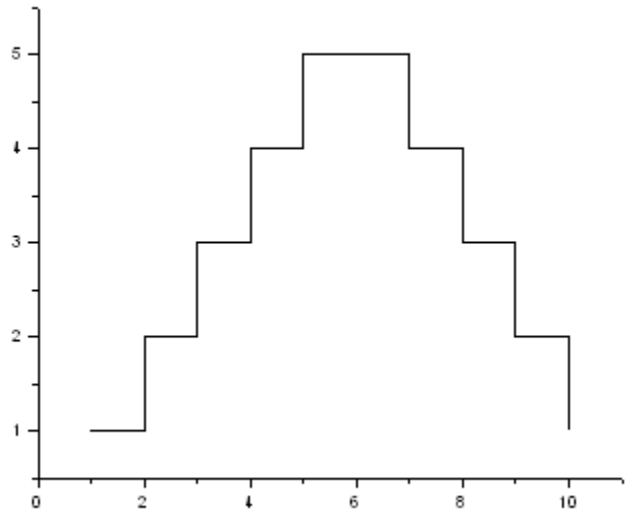
Template

The 3 point segment graph is created from the LINESYMB.OTP template located in the Origin folder.

Notes

The line connection display alternates between a straight line for three data points, then no line to the next data point, a straight line for three data points, etc. (the connection type is set to Segment 3 on the Line tab of the Plot Details dialog box (**Format:Plot**)). Thus, every three consecutive data points are connected by two lines (the first, second, and third data points; the fourth, fifth, and sixth data points; etc.). The data points are displayed as symbols.

Horizontal Step Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Special Line/Symbol:Horizontal Step** or click the Horizontal Step button on the 2D Graphs Extended toolbar.

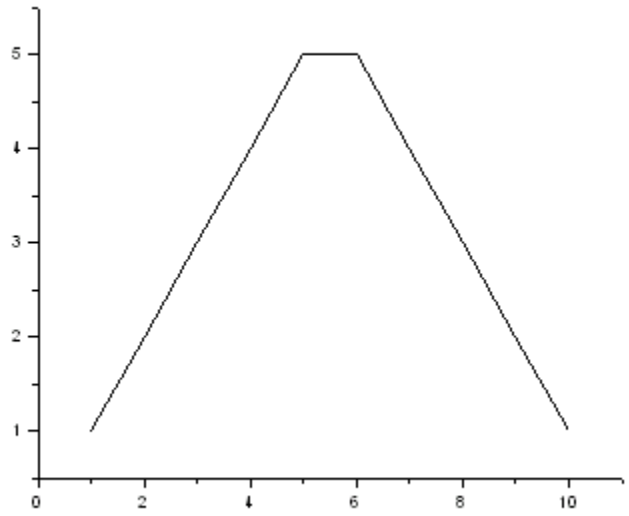
Template

The horizontal step graph is created from the LINE.OTP template located in the Origin folder.

Notes

Each data point in the data plot is connected by a line. The line connection type is set to a step horizontal connection on the Line tab of the Plot Details dialog box (**Format:Plot**). The step horizontal connection creates a right angle connection between data points, with an initial horizontal line. The data points are not displayed.

Line Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

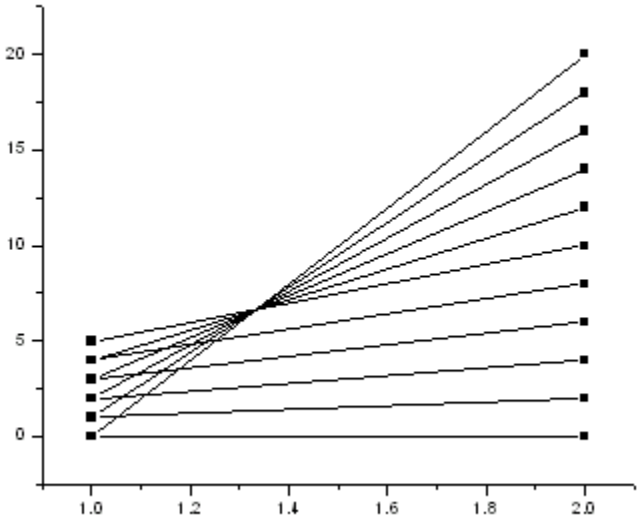
Creating the Graph

Select **Plot:Line** or click the Line button on the 2D Graphs toolbar.

Template

The line graph is created from the LINE.OTP template located in the Origin folder.

Line Series Graph



Data Requirements

Requires a selection of two or three Y columns of values.

Creating the Graph

Select **Plot:Special Line/Symbol:Line Series** or click the Line Series button on the 2D Graphs Extended toolbar.

Template

The line series graph is created from the LSER2.OTP template (two Y columns) or the LSER3.OTP template (three Y columns) located in the Origin folder.

Notes

After clicking the Line Series button, Origin creates a new (hidden) worksheet, LineSeries*n*. This worksheet includes two columns that contain the selected Y column numbers (1, 2, or 3) and the associated cell values.

For example, select the three Y columns in the following worksheet and click the Line Series button.

Data1

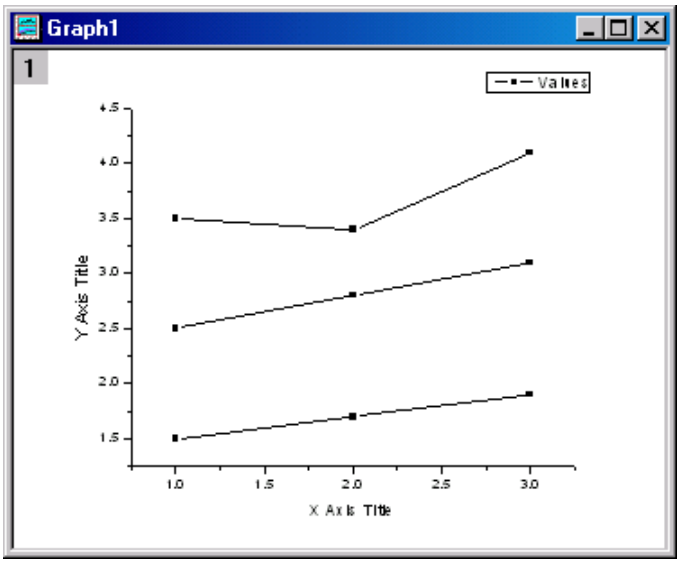
	A(Y)	B(Y)	C(Y)
1	1.5	1.7	1.9
2	2.5	2.8	3.1
3	3.5	3.4	4.1

This action produces the following (modified) LineSeries1 worksheet (To view the worksheet, double-click on the LineSeries1 worksheet icon on the right pane of the Project Explorer).

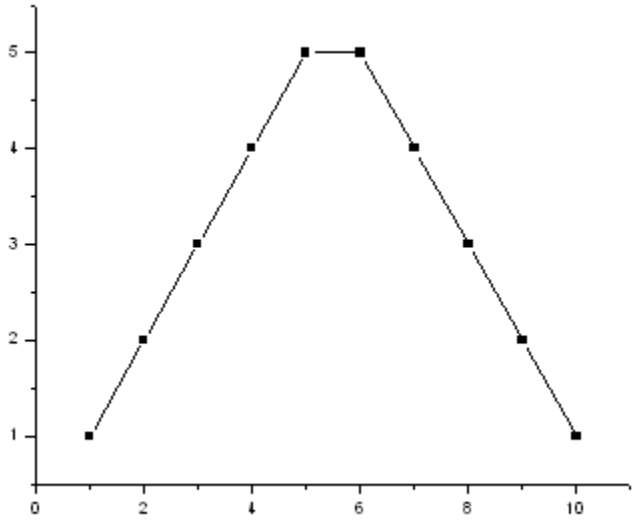
LineSeries1 - Performed on Data1 Worksheet

	Series(X)	Values(Y)
1	1	1.5
2	2	1.7
3	3	1.9
4	1	2.5
5	2	2.8
6	3	3.1
7	1	3.5
8	2	3.4
9	3	4.1

The line series graph emphasizes the trend in values with a worksheet row. Each series of row values comprises a line + symbol data plot. The data plot's X values are determined by the selected Y column number (1, 2, or 3). The data plot's Y values are determined by the actual cell values in the selected column.



Line+Symbol Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

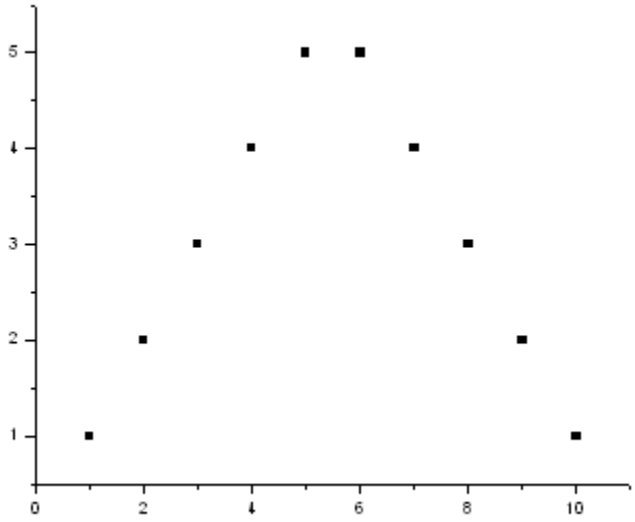
Creating the Graph

Select **Plot:Line+Symbol** or click the Line + Symbol button on the 2D Graphs toolbar.

Template

The line+symbol graph is created from the LINESYMB.OTP template located in the Origin folder.

2D Scatter Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

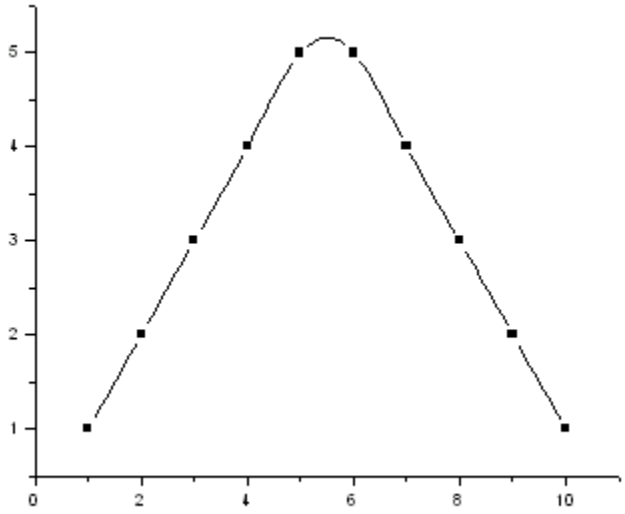
Creating the Graph

Select **Plot:Scatter** or click the Scatter button on the 2D Graphs toolbar.

Template

The scatter graph is created from the SCATTER.OTP template located in the Origin folder.

Spline Connected Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Special Line/Symbol:Spline** or click the Spline Connected button on the 2D Graphs Extended toolbar.

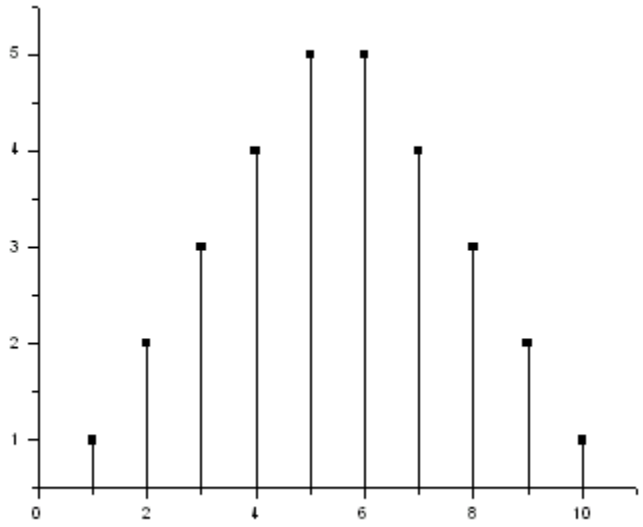
Template

The spline connected graph is created from the LINESYMB.OTP template located in the Origin folder.

Notes

Each data point in the data plot is connected by a line. The line connection type is set to a spline connection on the Line tab of the Plot Details dialog box (**Format:Plot**). The data points are displayed as symbols.

Vertical Drop Line Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Special Line/Symbol:Vertical Drop Line** or click the Vertical Drop Line button on the 2D Graphs Extended toolbar.

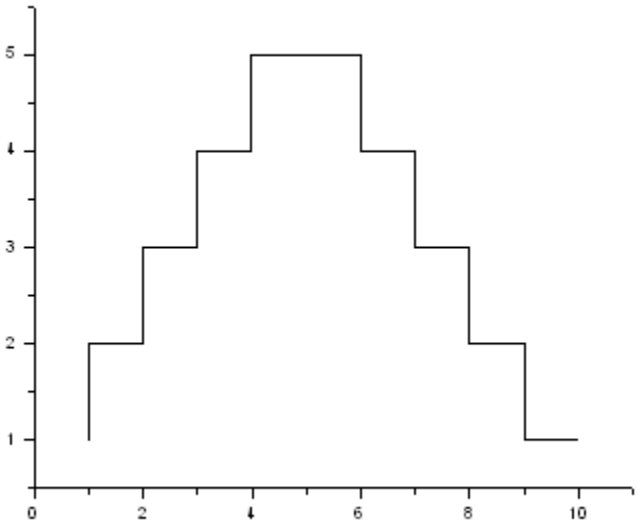
Template

The vertical drop line graph is created from the DROPLINE.OTP template located in the Origin folder.

Notes

This graph type emphasizes the difference in magnitude between data points in a data plot. The data points are displayed as symbols. A vertical line displays from each data point symbol to the X axis.

Vertical Step Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Special Line/Symbol:Vertical Step** or click the Vertical Step button on the 2D Graphs Extended toolbar.

Template

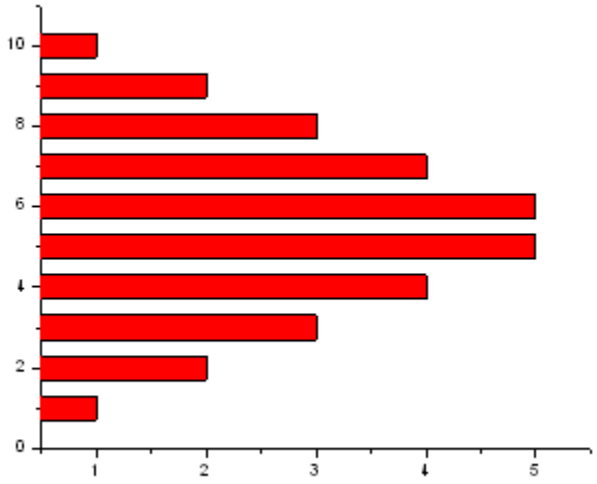
The vertical step graph is created from the LINE.OTP template located in the Origin folder.

Notes

Each data point in the data plot is connected by a line. The line connection type is set to a step vertical connection on the Line tab of the Plot Details dialog box (**Format:Plot**). The step vertical connection creates a right angle connection between data points, with an initial vertical line. The data points are not displayed.

2D Bar and Column Graphs

2D Bar Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Bar** or click the Bar button on the 2D Graphs toolbar.

Template

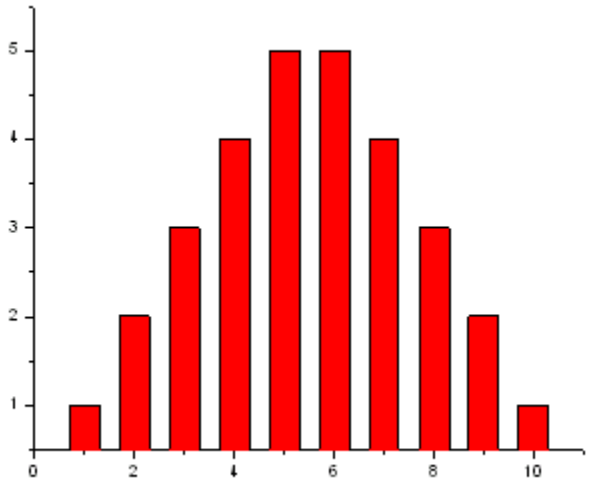
The bar graph is created from the BAR.OTP template located in the Origin folder.

Notes

The Y value of each data point in the data plot is represented as the length of a horizontal bar. Each bar has a fixed width, and each worksheet row of bar values is centered at the associated X value. The X values plot along the vertical axis.

To establish Y=1 as the "floor", or Y value which alters the direction of bar graphs displayed on a logarithmic scale, select the Log Scale use 1 as Floor check box on the Graph tab in the Options dialog box (**Tools:Options**). To display a line when Y=0, select the Bar Graph Show Zero Values check box on the Graph tab of the Options dialog box (**Tools:Options**).

Column Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Column** or click the Column button on the 2D Graphs toolbar.

Template

The column graph is created from the COLUMN.OTP template located in the Origin folder.

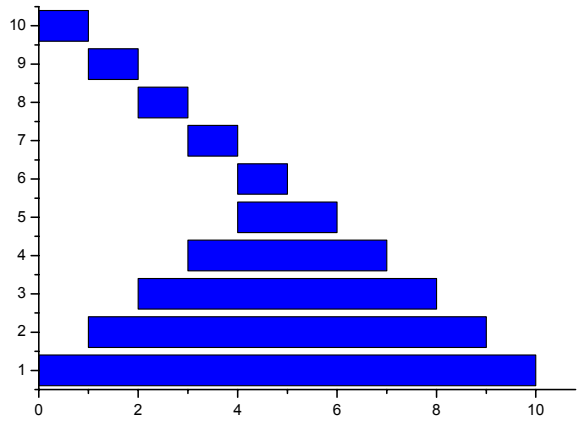
Notes

The Y value of each data point in the data plot is represented as the height of a column. Each column has a fixed width, and each "X group" of columns is centered at the associated X value.

To establish Y=1 as the "floor", or Y value which alters the direction of column graphs displayed on a logarithmic scale, select the Log Scale use 1 as Floor check box on the Graph tab in the Options dialog box (**Tools:Options**).

To display a line when Y=0, select the Bar Graph Show Zero Values check box on the Graph tab of the Options dialog box (**Tools:Options**).

Floating Bar Graph



Data Requirements

Requires a selection of at least two Y columns of values (or a range from at least two columns). If an X column is present to the left of the Y columns in the worksheet, the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Special Bar/Column:Floating Bar** or click the Floating Bar button on the 2D Graphs Extended toolbar.

Template

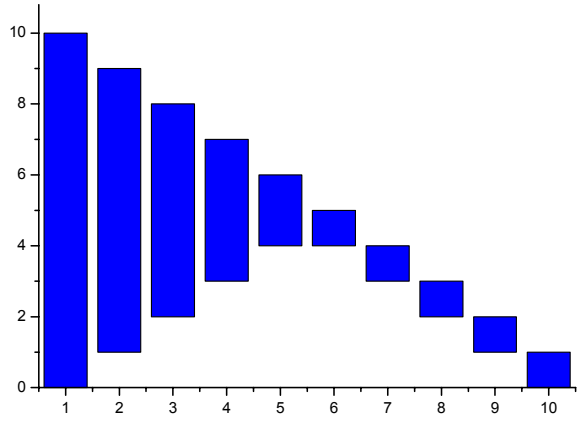
The floating bar graph is created from the FLOATBAR.OTP template located in the Origin folder.

Notes

The floating bar graph displays Y values as beginning, intermediate, and ending bar levels for each X value. The X values plot along the vertical axis.

The first Y data set provides the starting Y position for each bar graph. The second Y data set provides an intermediate level and defines a bar between the starting position and the current position. The third (fourth, etc.) Y data set provides an additional intermediate value and defines a bar between the previous intermediate value and the current value. The final Y data set provides an ending value and defines a bar between the previous intermediate value and the current value.

Floating Column Graph



Data Requirements

Requires a selection of at least two Y columns of values (or a range from at least two columns). If an X column is present to the left of the Y columns in the worksheet, the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Special Bar/Column:Floating Column** or click the Floating Column button on the 2D Graphs Extended toolbar.

Template

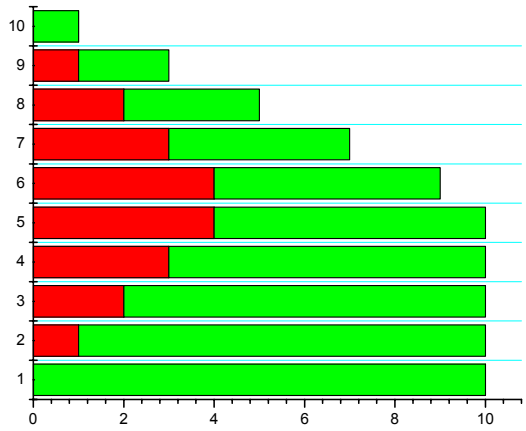
The floating column graph is created from the FLOATBAR.OTP template located in the Origin folder.

Notes

The floating column graph displays Y values as beginning, intermediate, and ending column levels for each X value.

The first Y data set provides the starting Y position for each column graph. The second Y data set provides an intermediate level and defines a column between the starting position and the current position. The third (fourth, etc.) Y data set provides an additional intermediate value and defines a column between the previous intermediate value and the current value. The final Y data set provides an ending value and defines a column between the previous intermediate value and the current value.

Stack Bar Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Special Bar/Column:Stack Bar** or click the Stack Bar button on the 2D Graphs Extended toolbar.

Template

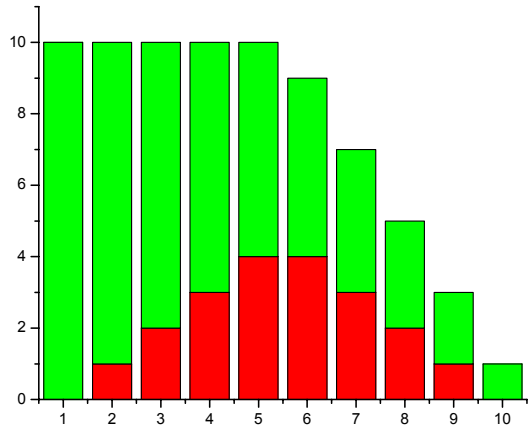
The stack bar graph is created from the BAR.OTP template located in the Origin folder.

Notes

For each X value, the associated Y values are represented as the length of a bar. Each bar has a fixed width. The bars, however, are stacked on each other so that the second bar segment begins at the end of the first bar, etc. The stack of bars is centered at the associated X value. The X values plot along the vertical axis. To unstack the bars, select **Graph:Stack Grouped Data in Layer** (to de-select the menu command).

To display a line when Y=0, select the Bar Graph Show Zero Values check box on the Graph tab of the Options dialog box (**Tools:Options**).

Stack Column Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Special Bar/Column:Stack Column** or click the Stack Column button on the 2D Graphs Extended toolbar.

Template

The stack column graph is created from the COLUMN.OTP template located in the Origin folder.

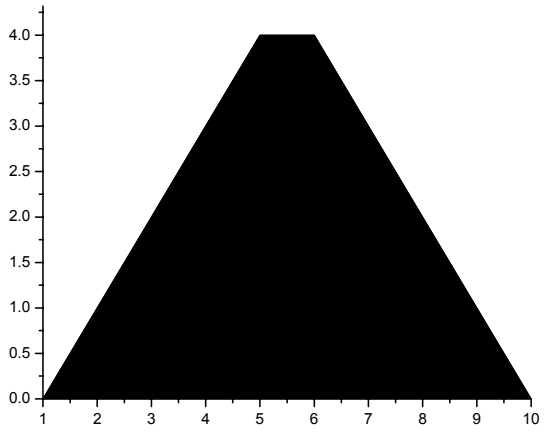
Notes

For each X value, the associated Y values are represented as the height of a column. Each column has a fixed width. The columns, however, are stacked on each other so that the second column begins at the end of the first column, etc. The stack of columns is centered at the associated X value. To unstack the columns, select **Graph:Stack Grouped Data in Layer** (to de-select the menu command).

To display a line when Y=0, select the Bar Graph Show Zero Values check box on the Graph tab of the Options dialog box (**Tools:Options**).

Area, Polar, and 2D Waterfall Graphs

Area Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Area** or click the Area button on the 2D Graphs toolbar.

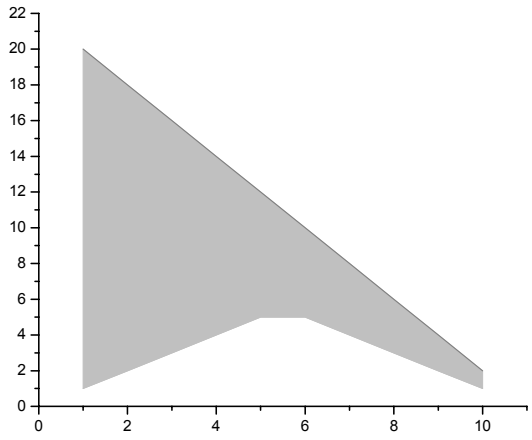
Template

The area graph is created from the AREA.OTP template located in the Origin folder.

Notes

When one Y column of values (or a range from one column) is selected, the area between the data plot and the "From" Y axis value is filled by default. When more than one Y column of values (or a range from more than one column) is selected, each successive column of values displays as an area graph that is stacked on the previous area graph. Thus, the upper bounds of the previous area graph becomes the baseline of the next area graph. To plot each of the data plots so that the area between the data plot and the "From" Y axis value is filled, select **Graph:Stack Grouped Data in Layer** (to de-select this command).

Fill Area Graph



Data Requirements

Requires a selection of two Y columns of values (or a range from two columns). If an X column is present to the left of the Y columns in the worksheet, the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Fill Area** or click the Fill Area button on the 2D Graphs toolbar.

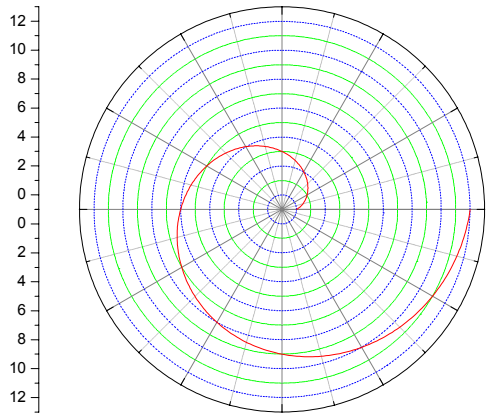
Template

The fill area graph is created from the FILLAREA.OTP template located in the Origin folder.

Notes

The area between the data plots determined by both Y columns is filled.

Polar Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Note: To learn more polar graphs, review the POLAR.OPJ project located in your Origin \SAMPLES\GRAPHING\2D PLOTS folder.

Creating the Graph

Select **Plot:Polar** or click the Polar button on the 2D Graphs toolbar.

Template

The polar graph is created from the POLAR.OTP template located in the Origin folder.

Notes

The polar graph displays data in terms of the radial position versus the angular value in units of degrees. The Y value determines the radial position of the data point. The X value determines the angular value of the data point.

Three buttons are provided in the graph window. Click Set Angular Range to modify the starting and ending angular values, as well as the increment. Click "90 ← 0" button to set the first angular value at "3:00" and increment counterclockwise. Click "0 → 90" button to set the first angular value at "12:00" and increment clockwise.

Select the Fixed from 0 radio button to display the polar graph with the center of the graph representing a Y value of 0. Select the Use Y-Axis Range radio button to display the polar graph with the center of the graph representing the Y axis scale "From" text box value (on the Scale tab of the Axis dialog box).

To Modify the Angular Range

Click Set Angular Range to open the Angular Range dialog box. Specify the starting and ending angular values, as well as the angular increment.

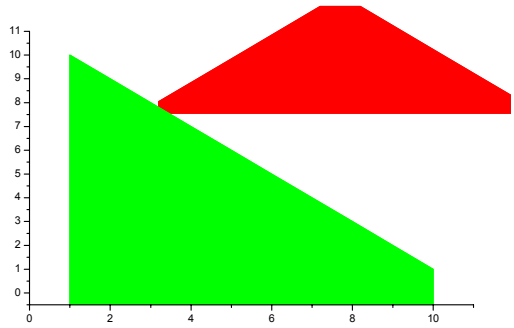
To Modify the Circular Grids

Select **Format:Axes:Y Axis** to open the Y Axis dialog box. Select the Grid Lines tab. Horizontal is the active selection in the Selection list box. Horizontal grids are equivalent to circular grids in a polar graph. To customize the circular grids, make modifications to this tab when Horizontal is selected from the Selection list box.

To Modify the Radial Grids

Select **Format:Axes:X Axis** to open the X Axis dialog box. Select the Grid Lines tab. Vertical is the active selection in the Selection list box. Vertical grids are equivalent to radial grids in a polar graph. To customize the radial grids, make modifications to this tab when Vertical is selected from the Selection list box.

2D Waterfall Graph



Data Requirements

Requires a selection of at least one Y column (or a range from at least one Y column). Ideally, select at least two Y columns of values (or a range of at least two Y columns). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Special Line/Symbol:Waterfall** or click the Waterfall button on the 2D Graphs Extended toolbar.

Template

The waterfall graph is created from the WATERFAL.OTP template located in the Origin folder.

Notes

The waterfall graph is ideal for comparing variations between multiple data sets created under similar conditions. The graph has a pseudo-3D effect, enabling you to see variations in the Z direction.

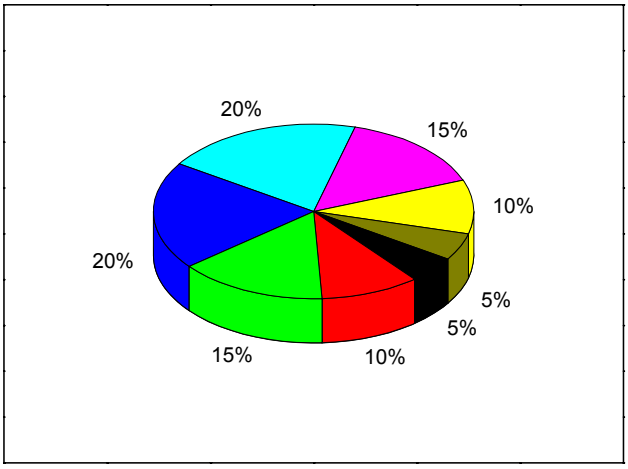
Each data set is displayed as a line data plot which is offset by a specified amount in both the X and Y direction. To adjust the data plot offset, click the Offset Amount button in the graph window. This action opens a dialog box in which you control the offset. Select or clear the offset from the XY Offset drop-down list. Specify the Y offset in the Total Y Offset (%) text box. Specify the X offset in the Total X Offset (%) text box.

Click the Reverse Order button in the graph window to switch the order in which the data sets are plotted. Thus, the first data set is plotted last, the last data set is plotted first, etc., providing a different perspective on data set relations.

To fill the area below each line data plot, click the Fill Area button in the graph window. This action opens a dialog box in which you control the fill display. Select the Enable Fill check box to fill the area beneath the data plot with the color specified from the Fill with Color drop-down list. Select the Side Lines check box to display vertical drop lines at the first and last data points in each of the data plots (using the specified fill color).

Note: You can also control the fill from the Plot Details dialog box.

Pie Charts



Data Requirements

Requires a selection of exactly one Y column of values (or a range from one column).

Note: To learn more about pie charts, review the 3D PIE CHART.OPJ project located in your Origin \SAMPLES\GRAPHING\3D PLOTS folder.

Creating the Graph

Select **Plot:Pie** or click the Pie Chart button on the 2D Graphs toolbar.

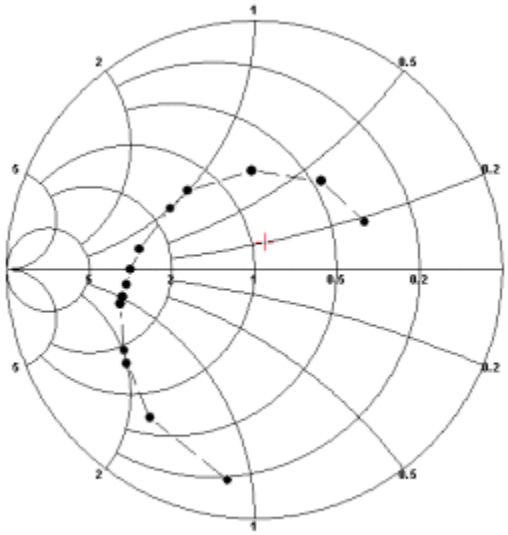
Template

The pie chart is created from the PIE.OTP template located in the Origin folder.

Notes

The selected values are summed, and the percentage of the total is determined for each selected value. The pie chart displays the percentage of the total for each selected value as a pie section.

Smith Charts



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

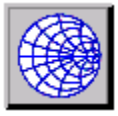
Creating the Graph

Select **Plot:Smith Chart** or click the Smith Chart button on the 2D Graphs toolbar.

Template

The Smith Chart graph is created from the SMITHCHT.OTP template located in the Origin folder.

Notes

To customize the Smith Chart, edit the Plot Details and Axes dialog boxes. Additionally, click the  button to open the Smith Chart tool.

The Normalization Group

Re-normalize the current Smith Chart by entering or selecting a factor from the Factor combo box. Click Normalize to perform the normalization.

The Current Active Data Set Group

If you have plotted multiple data sets into the Smith Chart, the "Convert Data to Mag / Angle" and the "Reinterpret Data as Mag / Angle" buttons act on the *active* data plot. You can change the active data plot in the Smith Chart from the **Data** menu or by selecting the data plot icon in the legend. To update the Smith Chart tool with this change, click the Update button on the tool. (Note: R = real part, X = imaginary part)

The "Convert Data to Mag / Angle" Button

Click this button to convert the active data plot into the Mag / Angle format and put the data in the source worksheet.

The "Reinterpret Data as Mag / Angle" Button

Click this button to treat the active data plot as the Mag / Angle format, and convert the data into R / X format. The data is then re-plotted.

The "Reverse R Axis" Button

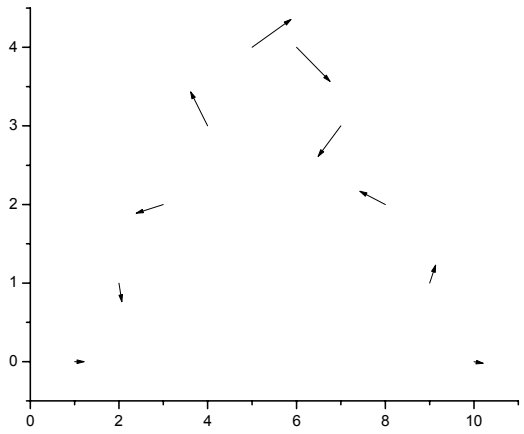
Click this button to reverse the real part axis of the Smith Chart.

The Constant SWR Circle Group

Given the point position specified, select the circle point density and the line color. Click the Add button to add a constant SWR circle through the given point.

Vector Graphs

X, Y, Angle, Magnitude Vector Graph



Data Requirements

Requires a selection of three Y columns (or a range from three Y columns). If an X column is present to the left of the Y columns in the worksheet, the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Vector XYAM** or click the Vector XYAM button on the 2D Graphs toolbar.

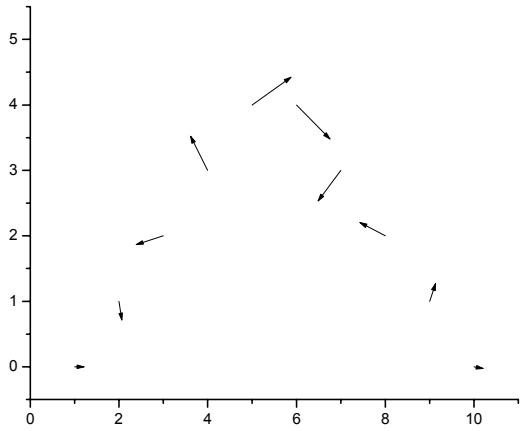
Template

The XYAM vector graph is created from the VECTOR.OTP template located in the Origin folder.

Notes

The leftmost Y column controls the Y coordinate of the vector tail (by default). The second Y column determines the angle of the vector. The angle is measured counterclockwise from a line parallel to the X axis, bisecting the vector. The third Y column controls the vector length in units of points. The Plot Details dialog box provides a control to scale the length of the vector.

X, Y, X, Y Vector Graph



Data Requirements

Requires a selection of two X columns and two Y columns (or a range from these columns).

Creating the Graph

Select **Plot:Vector XYXY** or click the Vector XYXY button on the 2D Graphs toolbar.

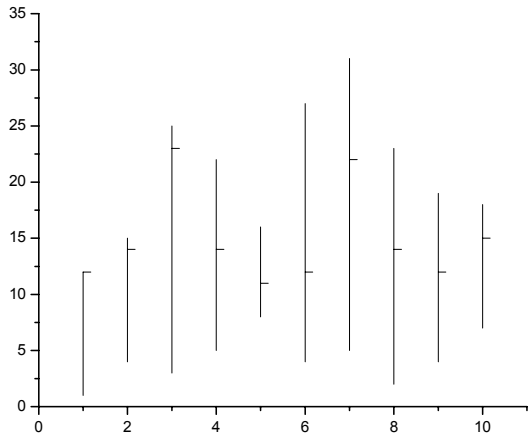
Template

The XYXY vector graph is created from the VECTXYXY.OTP template located in the Origin folder.

Notes

The leftmost X and Y columns determine the XY coordinate of the tail of the vector. The second set of X and Y columns determine XY coordinate of the head of the vector.

High-Low-Close Charts



Data Requirements

Requires a selection of exactly three Y column of values (or a range from three columns). The leftmost Y column contains the high values, the next Y column displays the low values, and the last Y column displays the closing values. If an X column is present to the left of the Y columns in the worksheet, the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:High-Low-Close** or click the High-Low-Close button on the 2D Graphs toolbar.

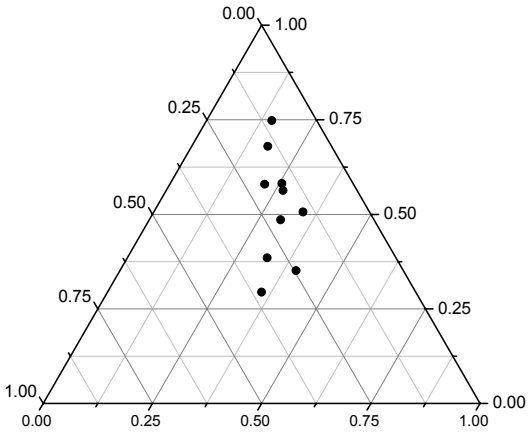
Template

The High-Low-Close chart is created from the HLCLOSE.OTP template located in the Origin folder.

Notes

The chart displays the high and low Y values for a given X value. These values are connected by a vertical line (the data points aren't displayed). The close Y value for a given X value displays as a tick on the vertical line.

Ternary Graphs



Data Requirements

Requires a selection of one Z column of values (or a range from one Z column). The worksheet must also contain Y column values (and typically X column values). If an X column is present to the left of the Y column in the worksheet, the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Note: To learn more about the ternary diagram, review the TERNARY.OPJ project located in your Origin \SAMPLES\GRAPHING\2D PLOTS folder.

Creating the Graph

Select **Plot:Ternary** or click the Ternary button on the 2D Graphs toolbar.

Template

The ternary diagram is created from the TERNARY.OTP template located in the Origin folder.

Notes

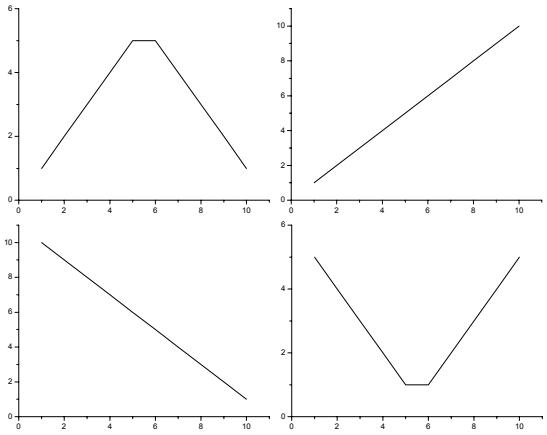
Ternary diagrams are used to represent the relative percentage of three components (X, Y, and Z). Each worksheet row of X, Y, and Z values determines a data point in the ternary diagram.

When plotting XYZ data as a ternary diagram, Origin assumes that each row of X, Y, and Z values are normalized (so that X+Y+Z = 1). If there is at least one data point that is currently not normalized, Origin gives you the option to normalize your worksheet data when plotting a ternary diagram. When you normalize your worksheet data for the ternary diagram, the Data Reader tool reads the actual X, Y, and Z worksheet values in the diagram.

In the ternary diagram, percentage values for the Y component are read from 0% at the lower-right corner of the triangle, to 100% at the peak of the triangle. Percentage values for the Z component are read from 100% at the lower-left corner of the triangle, to 0% at the peak of the triangle. Percentage values for the X component are read from 0% at the lower-left corner of the triangle to 100% at the lower-right corner of the triangle.

Multiple Layer Graphs

4 Panel Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). Ideally, select four Y columns of values. If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Panel:4 Panel** or click the 4 Panel button on the 2D Graphs Extended toolbar.

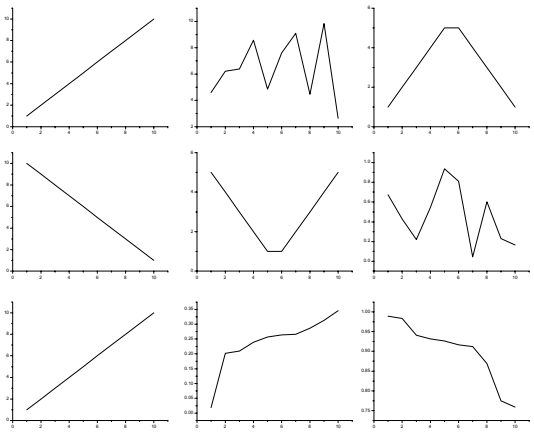
Template

The 4 panel graph is created from the PAN4.OTP template located in the Origin folder.

Notes

Each column of Y values plots into a separate layer. The layers are arranged in two columns and two rows.

9 Panel Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). Ideally, select nine Y columns of values. If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Panel:9 Panel** or click the 9 Panel button on the 2D Graphs Extended toolbar.

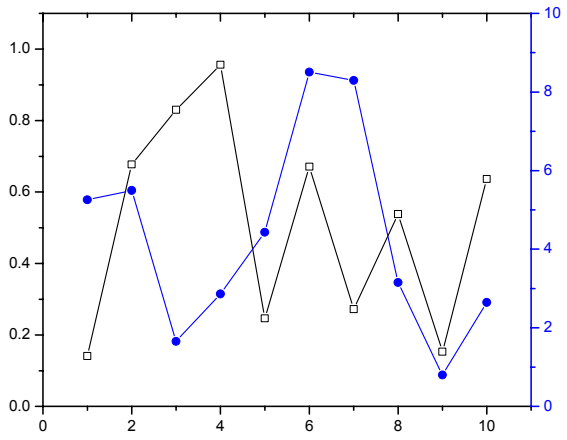
Template

The 9 panel graph is created from the PAN9.OTP template located in the Origin folder.

Notes

Each column of Y values plots into a separate layer. The layers are arranged in three columns and three rows.

Double Y Axis Graph



Data Requirements

Requires a selection of at least two Y columns of values (or a range from at least two columns). If an X column is present to the left of the Y columns in the worksheet, the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Special Line/Symbol:Double Y** or click the Double Y Axis button on the 2D Graphs Extended toolbar.

Template

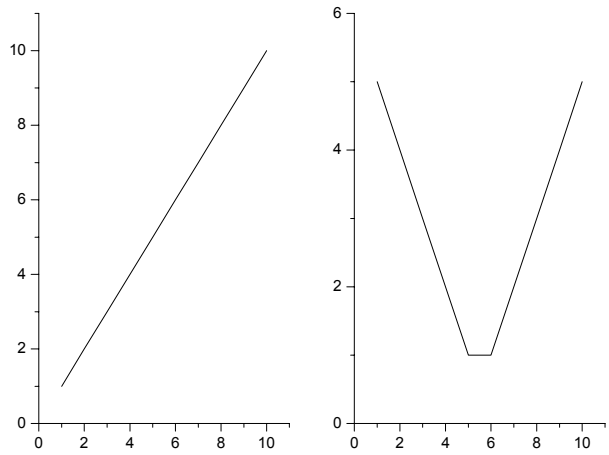
The double Y axis graph is created from the DOUBLEY.OTP template located in the Origin folder.

Notes

The double Y axis graph contains two layers. Layer 2 is linked to layer 1. The X axis in layer 2 has a straight one-to-one link with the X axis in layer 1.

If two columns of values are selected (or a range of two columns), then one data plot displays in each layer. Each data point in the data plot is connected by a line. The default line connection between points is a straight line. The data points are displayed as symbols.

Horizontal 2 Panel Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). Ideally, select two Y columns of values. If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Panel:Horizontal 2 Panel** or click the Horizontal 2 Panel button on the 2D Graphs Extended toolbar.

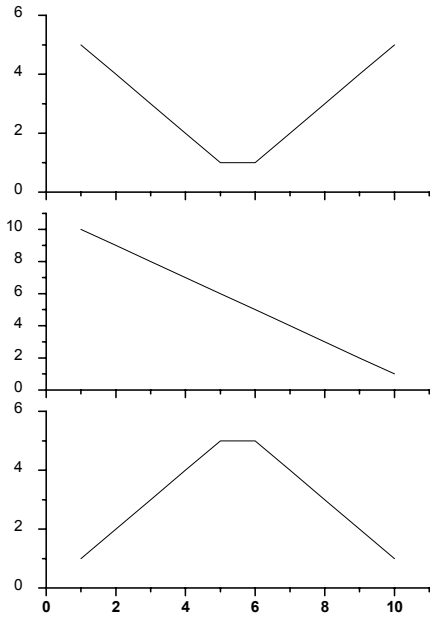
Template

The horizontal 2 panel graph is created from the PAN2HORZ.OTP template located in the Origin folder.

Notes

Each column of Y values plots into a separate layer. The two layers are arranged in two columns and one row.

Stack Graph



Data Requirements

Requires a selection of at least one Y column (or a range from at least one Y column). Ideally, select at least two Y columns of values (or a range of at least two Y columns). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Panel:Stack** or click the Stack button on the 2D Graphs Extended toolbar.

Template

The stack graph is created from the STACK.OTP template located in the Origin folder.

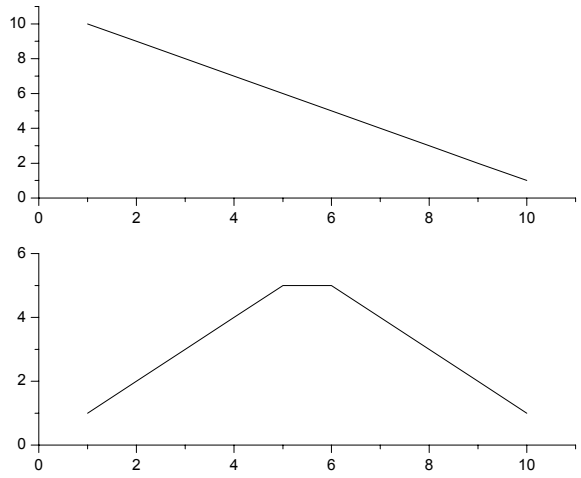
Notes

Each data plot displays in its own layer in a graph window. The layers are stacked in one column. The leftmost selected data set in the worksheet displays in the lower graph layer (layer 1). The data set to the right of the leftmost data set in the worksheet displays in layer 2, etc. Each child layer is linked to layer 1. Additionally, the X axis in each child layer has a straight one-to-one link with the X axis in layer 1.

The Y axis titles display the associated worksheet column names. No tick labels or X axis titles display.

Each data point in the data plot is connected by a line.

Vertical 2 Panel Graph



Data Requirements

Requires a selection of at least one Y column of values (or a range from at least one column). Ideally, select two Y columns of values. If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Panel:Vertical 2 Panel** or click the Vertical 2 Panel button on the 2D Graphs Extended toolbar.

Template

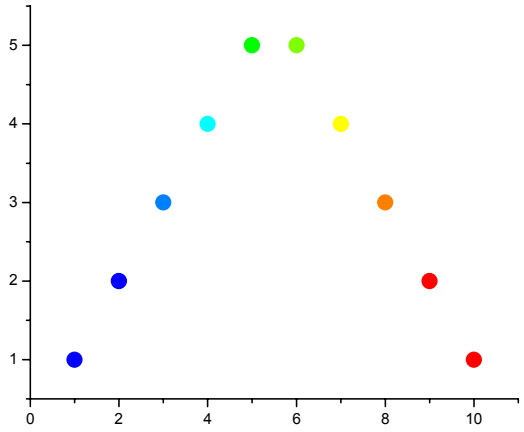
The vertical 2 panel graph is created from the PAN2VERT.OTP template located in the Origin folder.

Notes

Each column of Y values plots into a separate layer. The two layers are arranged in one column and two rows.

Indexed Size (Bubble) and Color Mapped Graphs

Color Mapped Graph



Data Requirements

Requires a selection of two Y columns of values (or a range from two Y columns). If an X column is present to the left of the Y columns in the worksheet, the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Bubble/Color Mapped:Color Mapped** or click the Color Map button on the 2D Graphs Extended toolbar.

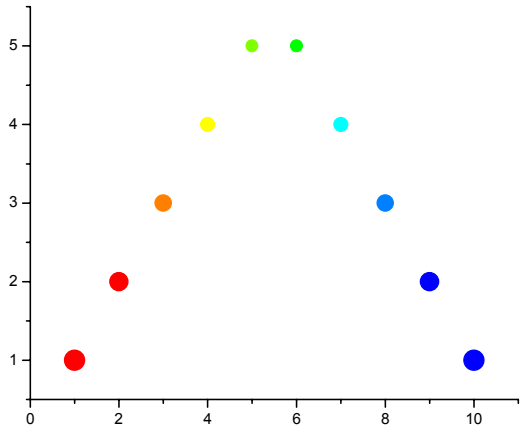
Template

The color map graph is created from the SCATTER.OTP template located in the Origin folder.

Notes

For each row, the two Y column values determine the display of the data point. The leftmost Y column provides the Y data point values. The second Y column controls the data point symbol color. Origin finds the minimum and maximum values in the second Y column, creates eight evenly sized ranges of values between the minimum and maximum values, and then associates a color with each range of values. Each data point color is determined by finding the color associated with the second Y column value in the color map.

Indexed Size (Bubble) and Color Map Graph



Data Requirements

Requires a selection of three Y columns of values (or a range from three Y columns). If an X column is present to the left of the Y columns in the worksheet, the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Bubble/Color Mapped:Bubble + Color Mapped** or click the Bubble + Color Mapped button on the 2D Graphs Extended toolbar.

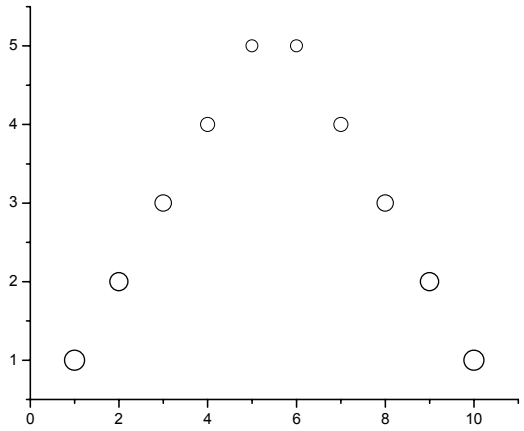
Template

The indexed size (bubble) and color mapped graph is created from the SCATTER.OTP template located in the Origin folder.

Notes

For each row, the three Y column values determine the display of the data point. The leftmost Y column provides the Y data point values. The second Y column controls the data point symbol size in units of points. The third Y column controls the symbol color. Origin finds the minimum and maximum values in the third Y column, creates eight evenly sized ranges of values between the minimum and maximum values, and then associates a color with each range of values. Each data point color is determined by finding the color associated with the third Y column value in the color map.

Indexed Size (Bubble) Graph



Data Requirements

Requires a selection of two Y columns of values (or a range from two Y columns). If an X column is present to the left of the Y columns in the worksheet, the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:Bubble/Color Mapped:Bubble** or click the Bubble button on the 2D Graphs Extended toolbar.

Template

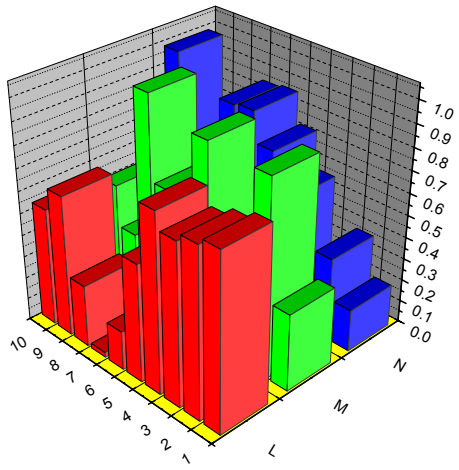
The indexed size (bubble) graph is created from the SCATTER.OTP template located in the Origin folder.

Notes

For each row, the two Y column values determine the display of the data point. The leftmost Y column provides the Y data point values. The second Y column controls the data point symbol size in units of points.

3D XYY Graphs

3D Bar Graph



Data Requirements

Requires a selection of at least one Y column (or a range from at least one Y column). Ideally, select at least two Y columns of values (or a range of at least two Y columns). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:3D XYY:3D Bars** or click the XYY 3D Bars button on the 3D Graphs toolbar.

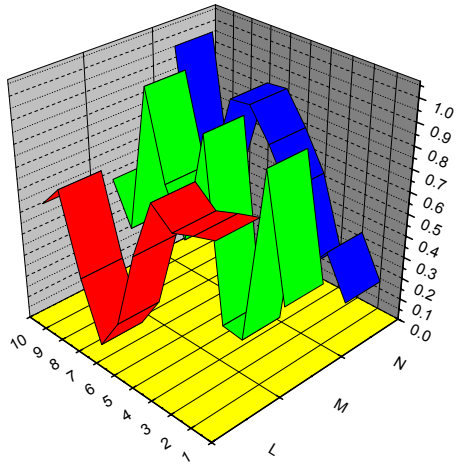
Template

The XYY 3D bars graph is created from the BAR3D.OTP template located in the Origin folder.

Notes

The Y value of each data point is represented as the height of a column. Each column has a fixed width and is labeled with its worksheet column name on the Z axis.

Ribbon Graph



Data Requirements

Requires a selection of at least one Y column (or a range from at least one Y column). Ideally, select at least two Y columns of values (or a range of at least two Y columns). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:3D XYY:3D Ribbons** or click the 3D Ribbons button on the 3D Graphs toolbar.

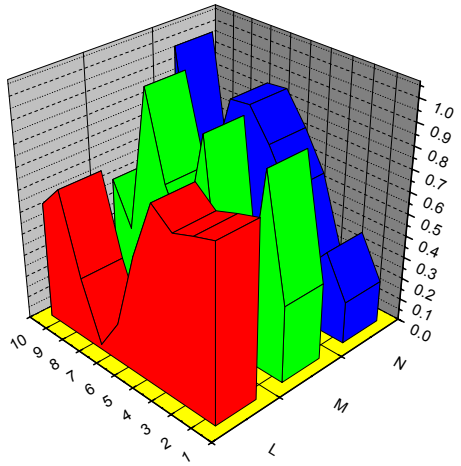
Template

The 3D ribbons graph is created from the RIBBON.OTP template located in the Origin folder.

Notes

The Y value of each data point is represented as the height of a ribbon. Each ribbon has a fixed width, and is labeled with its worksheet column name on the Z axis.

Wall Graph



Data Requirements

Requires a selection of at least one Y column (or a range from at least one Y column). Ideally, select at least two Y columns of values (or a range of at least two Y columns). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:3D XYY:3D Walls** or click the 3D Walls button on the 3D Graphs toolbar.

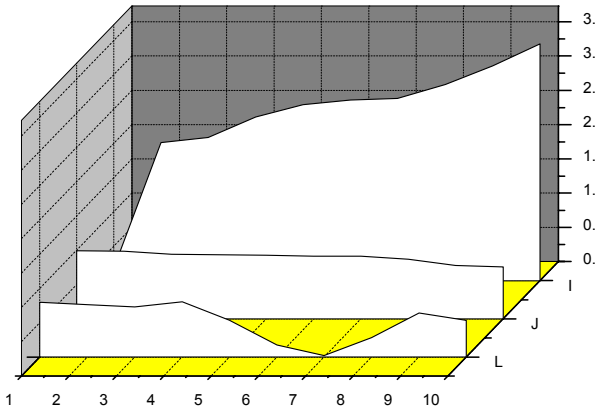
Template

The 3D walls graph is created from the WALLS.OTP template located in the Origin folder.

Notes

The Y value of each data point is represented as the height of a wall. Each wall has a fixed width, and is labeled with its worksheet column name on the Z axis.

3D Waterfall Graph



Data Requirements

Requires a selection of at least one Y column (or a range from at least one Y column). Ideally, select at least two Y columns of values (or a range of at least two Y columns). If the Y column(s) has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

Select **Plot:3D XYY:3D Waterfall** or click the 3D Waterfall button on the 3D Graphs toolbar.

Template

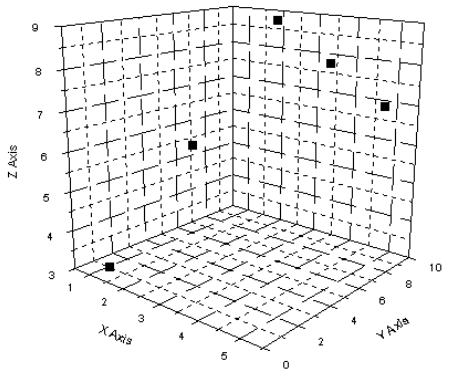
The 3D waterfall graph is created from the WATER3D.OTP template located in the Origin folder.

Notes

The Y values in each column define an XY face with white fill color.

3D XYZ Graphs

3D Scatter Graph



Data Requirements

Requires a selection of one Z column (or a range from one Z column). If the Z column has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Note: To learn more about 3D scatter graphs, review the 3D SCATTER.OPJ project located in your Origin \SAMPLES\GRAPHING\3D PLOTS folder.

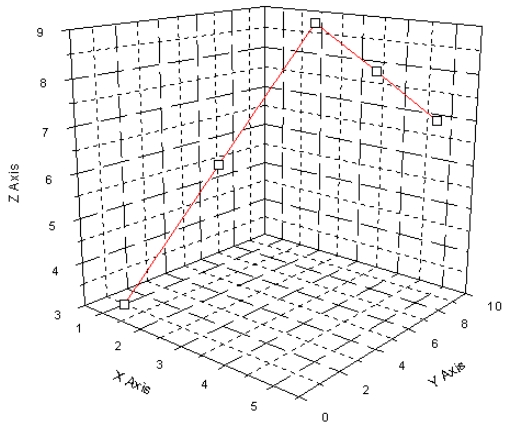
Creating the Graph

Select **Plot:3D XYZ:3D Scatter** or click the 3D Scatter Plot button on the 3D Graphs toolbar.

Template

The 3D scatter graph is created from the 3D.OTP template located in the Origin folder.

Trajectory Graph



Data Requirements

Requires a selection of one Z column (or a range from one Z column). If the Z column has an associated X column, then the X column supplies the X values. Otherwise, the worksheet's default X values are used.

Creating the Graph

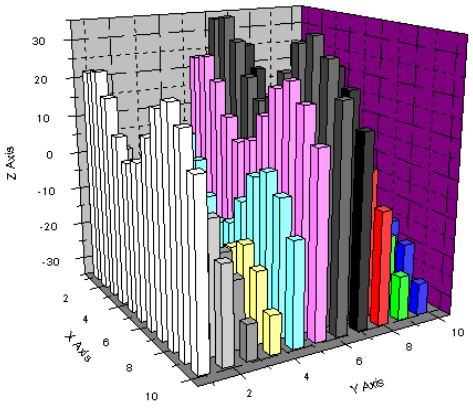
Select **Plot:3D XYZ:3D Trajectory** or click the 3D Trajectory button on the 3D Graphs toolbar.

Template

The 3D trajectory graph is created from the TRAJECT.OTP template located in the Origin folder.

3D Surfaces

Bars



Data Requirements

Requires that a matrix of Z values is active.

Creating the Graph

Select **Plot:3D Bars** or click the Matrix 3D Bars button on the 3D Graphs toolbar.

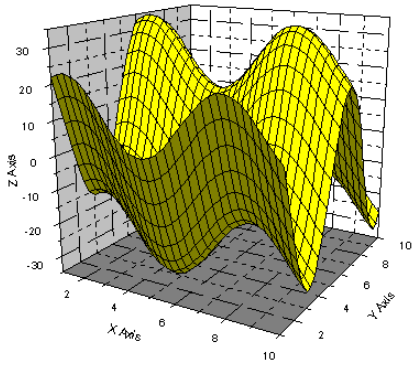
Template

The (matrix) 3D bars graph is created from the 3DBARS.OTP template located in the Origin folder.

Notes

The Z values represent the height of the columns (bars). The associated X and Y values mapped in the matrix determine the XY locations of each column.

Color Fill Surface



Data Requirements

Requires that a matrix of Z values is active.

Creating the Graph

Select **Plot:3D Color Fill Surface** or click the 3D Color Fill Surface button on the 3D Graphs toolbar.

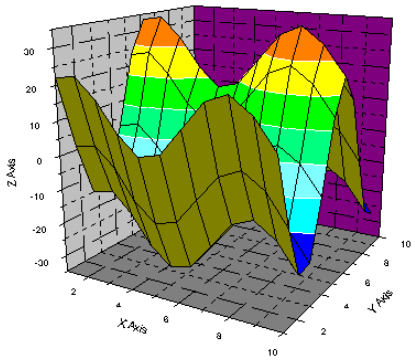
Template

The 3D color fill surface graph is created from the MESH.OTP template located in the Origin folder.

Notes

The Z values determine a surface of X and Y grid lines with fill colors on the front and the back of the surface.

Color Map Surface



Data Requirements

Requires that a matrix of Z values is active.

Note: To learn more about 3D color map surface graphs, review the 3D SURFACE & CONTOUR.OPJ project located in your Origin \SAMPLES\GRAPHING\3D PLOTS folder.

Creating the Graph

Select **Plot:3D Color Map Surface** or click the 3D Color Map button on the 3D Graphs toolbar.

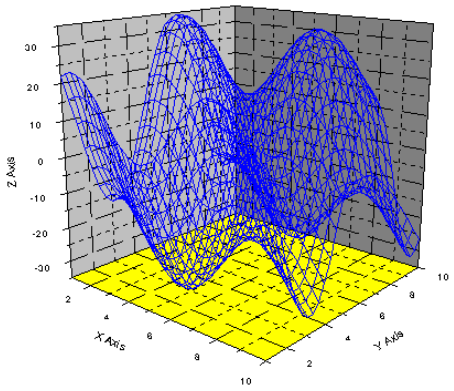
Template

The 3D color map surface graph is created from the CMAP.OTP template located in the Origin folder.

Notes

The Z values determine a surface of X and Y grid lines with fill colors on the front and the back of the surface. The front of the surface is filled using a color map with associated Z levels.

Wire Frame Surface



Data Requirements

Requires that a matrix of Z values is active.

Creating the Graph

Select **Plot:3D Wire Frame** or click the 3D Wire Frame button on the 3D Graphs toolbar.

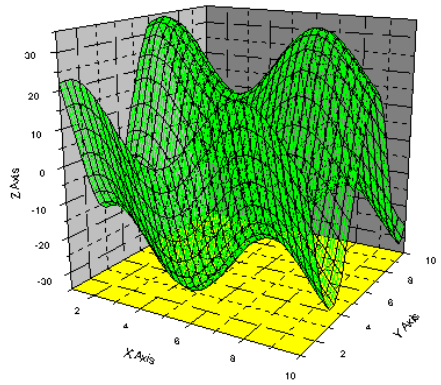
Template

The 3D wire frame graph is created from the WIREFRM.OTP template located in the Origin folder.

Notes

The Z values determine a surface of X and Y grid lines.

Wire Surface



Data Requirements

Requires that a matrix of Z values is active.

Creating the Graph

Select **Plot:3D Wire Surface** or click the 3D Wire Surface button on the 3D Graphs toolbar.

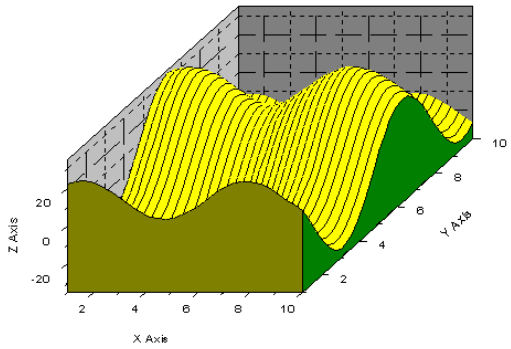
Template

The 3D wire surface graph is created from the WIREFACE.OTP template located in the Origin folder.

Notes

The Z values determine a surface of X and Y grid lines with secondary lines between the grids.

X Constant with Base Surface



Data Requirements

Requires that a matrix of Z values is active.

Creating the Graph

Select **Plot:3D X Constant with Base** or click the 3D X Constant with Base button on the 3D Graphs toolbar.

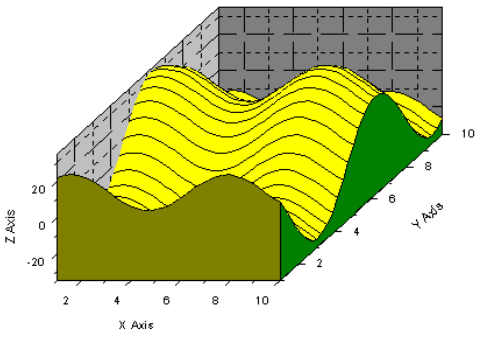
Template

The 3D X constant with base graph is created from the XCONST.OTP template located in the Origin folder.

Notes

The Z values determine a surface of grid lines parallel to the Y axis. The front surface displays a fill color. X and Y side walls are also enabled.

Y Constant with Base Surface



Data Requirements

Requires that a matrix of Z values is active.

Creating the Graph

Select **Plot:3D Y Constant with Base** or click the 3D Y Constant with Base button on the 3D Graphs toolbar.

Template

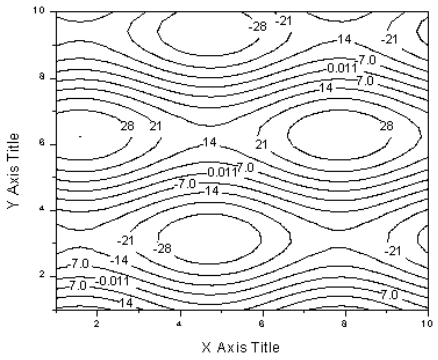
The 3D Y constant with base graph is created from the YCONST.OTP template located in the Origin folder.

Notes

The Z values determine a surface of grid lines parallel to the X axis. The front surface displays a fill color. X and Y side walls are also enabled.

Contour Graphs

Black and White Lines with Labels Contour



Data Requirements

Requires that a matrix of Z values is active.

Creating the Graph

Select **Plot:Contour - B/W Lines+Labels** or click the Contour B/W Lines button on the 3D Graphs toolbar.

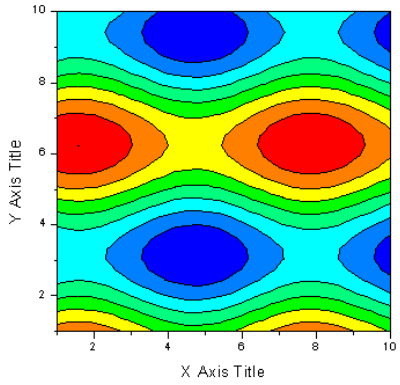
Template

The contour graph with black and white labels is created from the CONTLINE.OTP template located in the Origin folder.

Notes

Ranges of Z values are denoted on an XY grid using contour lines and associated labels.

Color Fill Contour



Data Requirements

Requires that a matrix of Z values is active.

Note: To learn more about color map contour graphs, review the CONTOUR.OPJ project located in your Origin \SAMPLES\GRAPHING\3D PLOTS folder.

Creating the Graph

Select **Plot:Contour - Color Fill** or click the Contour - Color Fill button on the 3D Graphs toolbar.

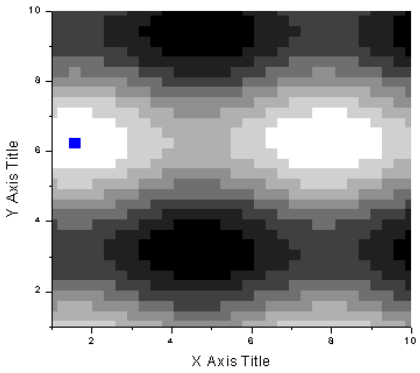
Template

The contour color fill graph is created from the CONTOUR.OTP template located in the Origin folder.

Notes

Ranges of Z values are denoted on an XY grid using contour lines and fill colors from a color map.

Gray Scale Map Contour



Data Requirements

Requires that a matrix of Z values is active.

Creating the Graph

Select **Plot:Gray Scale Map** or click the Gray Scale Map button on the 3D Graphs toolbar.

Template

The gray scale map graph is created from the CONTGRAY.OTP template located in the Origin folder.

Notes

Ranges of Z values are denoted on an XY grid using a gray scale map.